

### **REMARKS**

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

#### ***Status of the Claims***

Claims 1-57 are currently pending in the present application. Claims 2, 5, 15-18, 20, 23, 25, 34-37 and 39-57 have been withdrawn from further consideration as being drawn to a non-elected invention. Claims 1, 3, 8-10, 12-14, 19, 21, 26-29, 31-33 and 38 have been amended to further define and clarify the present invention, and to avoid their dependency on withdrawn claims.

Applicants question whether or not the Examiner intended to also withdraw claim 7 from consideration as being directed to non-elected subject matter.

Support for common amendments to claims 1 and 19 can be found on pages 35-36 and page 38, lines 5-12.

Based upon the above considerations, entry of the present Amendment is respectfully requested.

#### ***Issue Under the Obviousness-Type Double Patenting Doctrine***

The following provisional rejections under the judicially created doctrine of obviousness-type double patenting were presented by the Examiner.

Claims 1, 3, 4, 6, 8-14, 19, 21, 22, 24, 26-33, and 38 stand provisionally rejected as being unpatentable over claims 1-4 of co-pending Application No. 11/943,207.

Claims 1, 3, 4, 6, 8-14, 19, 21, 22, 24, 26-33, and 38 stand provisionally rejected as being unpatentable over claims 45-70 of co-pending Application No. 12/225,069.

Claims 1, 3, 4, 6, 8-14, 19, 21, 22, 24, 26-33, and 38 stand provisionally rejected as being unpatentable over claims 1-56 of co-pending Application No. 11/727,729.

Applicants respectfully request that the Examiner hold the above rejections in abeyance, pending an indication that the claims in the present application are otherwise in a condition for allowance.

### ***Claim Objections***

Claims 13, 14, 32, and 33 are objected to due to informalities. The Examiner asserts that the unit for work strain in claims 13, 14, 32, and 33 is unclear. Applicants respectfully traverse.

As indicated on page 23 of the present specification, the total strain amount means a total strain amount when a plastic working is carried out after producing a product prepared for a final solidifying-forming.

Applicants note that there is no unit of measure for total strain within the claims 13, 14, 32 and 33. If, for example, a sample that is 100 mm in total length is prepared and then is expanded by 10 mm by pulling the sample, an amount of strain  $x$  is calculated by  $x = 10/100=0.1$ , without any units.

Claims 3, 8, 9, 10, 12, 13, 21, 26, 27-33, and 38 are objected to due to being of improper dependent form. The Examiner asserts that the mentioned claims fail to further limit the subject matter of a previous claim. Applicants have amended the claims to remove dependencies from previously withdrawn claims. Applicants submit that the presently amended claims properly depend

from and limit the claim from which they depend.

Applicants respectfully request reconsideration and withdrawal of the present objections.

***Issue Under 35 U.S.C. § 102(b), Anticipation***

Claims 1, 3, 4, 6, 12-14, 19, 21, 22, 24, 31, 32, and 33 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kawamura *et al.*, “*Structure and Mechanical Properties of Rapidly Solidified Mg<sub>97</sub>Zn<sub>1</sub>RE<sub>2</sub> Alloys*,” Materials Science Forums, Vols. 419-422, pp. 751-756 (2003) (hereinafter “Kawamura”). Applicants respectfully traverse this rejection.

As indicated in MPEP 2113, Product-by-Process Claims, once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (MPEP 2113). Applicants herein provide the following differences between the claimed invention and Kawamura.

The magnesium alloy casting product of amended claims 1 and 19 has a long period stacking ordered structure phase.

In contrast, Kawamura teaches that rapidly solidified magnesium alloy has a long period stacking ordered structure phase. Kawamura does not teach that the magnesium alloy casting product has a long period stacking ordered structure phase.

The “casting product” feature of the presently amended claims 1 and 19 defines a product, not a process, for the following reasons.

The crystal structure of the rapidly solidified magnesium alloy has a submicron crystal grain

size, and does not have a crystal grain that is greatly larger in size as compared with the submicron size crystal grain. Against this, the crystal structure of the magnesium alloy casting product has a greatly larger crystal grain size as compared with the submicron size crystal (e.g., a crystal grain size of 2  $\mu\text{m}$  or more). Therefore, the magnesium alloy casting product and the rapidly solidified magnesium alloy can be easily distinguished, as well known to those skilled in the art.

With regard to claim 4, Applicants submit that the feature of this claim, “a plastically worked product which is produced by preparing a magnesium alloy casting product,” also defines a product, not a process, for the following reasons.

The crystal structure of the rapidly solidified magnesium alloy has a submicron crystal grain size, and does not have a large crystal grain size as compared with the submicron size crystal. Against this, the crystal structure of the plastically worked product has a crystal grain size that is greatly larger as compared with the submicron size crystal. Therefore, the plastically worked product and the rapidly solidified magnesium alloy can be easily distinguished from each other. Again, Applicants submit that for those skilled in the art, this is common knowledge.

Therefore, Applicants respectfully submit that based on the above, there are unobvious differences between the claimed product and the prior art product of the Kawamura reference. Since the Kawamura reference is silent regarding the features of the presently claimed invention, it does not teach the present invention.

Because “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” Kawamura cannot be a basis for a rejection under § 102(b). *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *See* MPEP 2131 – To Anticipate a Claim, the

Reference Must Teach Every Element of the Claim.

Therefore, Applicants respectfully submit that based on the above, Kawamura does not anticipate the present invention.

Applicants respectfully request reconsideration and withdrawal of the present rejection.

***Issues Under 35 U.S.C. § 103(a), Obviousness***

The following 35 U.S.C. § 103(a) rejections were presented by the Examiner.

Claims 8, 9, 10, 11, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura, and further in view of JP 05306424.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura as applied to claims above, and further in view of Fisher, U.S. Patent No. 3,334,998 (hereinafter "Fisher").

Applicants respectfully traverse the above rejections.

*Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), has provided the controlling framework for an obviousness analysis. A proper analysis under 35 U.S.C. § 103(a) requires consideration of the four *Graham* factors of: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467.

M.P.E.P. § 2143 sets forth the guidelines in determining obviousness. But before the Examiner can utilize these guidelines, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere; supra*. To reject a claim based on the above mentioned guidelines,

the Examiner must resolve the *Graham* factual inquiries. MPEP §2143. If the Examiner resolves the *Graham* factual inquiries, then the Examiner has to provide some rationale for determining obviousness, wherein M.P.E.P. § 2143 sets forth the rationales that were established in *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Applicants respectfully submit that the Examiner has not appropriately resolved the *Graham* factors, including the factors of determining the scope and content of the prior art and ascertaining the differences between the prior art and the claims that are at issue. Based on the following, Applicants maintain that the above-mentioned *Graham* factors actually work in Applicants' favor. Additionally, Applicants submit that since the Examiner did not resolve the *Graham* factors, the rationale the Examiner provides for combining the cited references is improper.

Applicants incorporate the above comments concerning the Kawamura reference and respectfully submit that the presently claimed invention is unobvious over the cited references in the presented rejections. That is, each of the secondary references is applied only for features presented in dependent claims. Neither of the secondary references cures the deficiencies of the Kawamura reference as discussed above. Therefore, even if the references were combined in the manner suggested by the Examiner, the result of such combination would still not suggest the features of the dependent claims.

In view of the above, it submitted that the present invention as claimed is distinguished over the references cited in the presented rejections.

In light of the above presently amended claims and remarks, because there is no disclosure, teaching, suggestion, reason or rationale provided in the references that would lead one of ordinary skill in the art to arrive at the instant invention as claimed, it follows that the references are

incapable of rendering the instant invention obvious under the provisions of 35 USC § 103(a).

Based upon the above, and applying the *Graham factors* analysis test, it is submitted that a *prima facie* case of obviousness has not been established.

Applicants respectfully request reconsideration and subsequent withdrawal of the above rejections.

### **CONCLUSION**

Applicants respectfully submit that all of the objections and rejections raised by the Examiner have been overcome, and that the present application now stands in condition for allowance.

Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Paul D. Pyla at the telephone number below, in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 23-0975 for any additional fees required under 37.C.F.R. §§1.16 or 1.17.

Respectfully submitted,

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